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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,421	05/11/2001	Tomoo Fujioka	Y-182	7682

802 7590 08/13/2002

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EXAMINER

NGUYEN, TUAN M

ART UNIT PAPER NUMBER

2828

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,421

Applicant(s)

FUJIOKA ET AL.

Examiner

Tuan M Nguyen

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-- The MAILING DATE of this communication appears on the certificate with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawing (figs 1a-7) is objected for minor informaty. The boxes show in figures 1a-7 are not labeled as required by 37 CFR 1.83(a). Applicant is required to submit a drawing correction for approval as require by rule 37 CFR 1.123

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claims 1 and 2, the recitation “ in such a manner” fails to clearly define the invention, which render the claims confusing, vague and indefinite. Claim 1 recites a pair of cylindrical electrodes of different diameter disposed vertically and concentrically with “the gap” between the cylindrical electrode filled with laser medium to de fine a cylindrical straight slab and claim 1 further recites characterized in that “no spacers are disposed between the two cylindrical electrodes which render the claim confusing, vague and indefinite.

Regarding to claims 3 and 5, the recitation “substantially Gaussian intensity distribution” without any definition, which render the claim confusing, vague and indefinite.

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Regarding claims 4 and 6-8, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-2 of copending Application No. 09/854,190. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: Claims 1, 3, and 5 are provisionally rejected under the judicially created doctrine of double patenting over claims 1 and 2 of copending Application No. 09/854,190. Claims 1 and 2 of copending application number 09/854,190 recite a cylindrical straight slab type gas laser comprising every element as recited in claims 1, 3, and 5 of this

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application. Although, the claim language is not identical, the claims are not patentable distinct from each other. Claim 1 of copending application number 09/854,190 recites "concentrically" which is a boarder limitation than "vertically and concentrically" as recited in claim 1 of this application. Furthermore, claim 1 of copending application number 09/854,190 recites additionally limitation of the relationship between the offset X_m and the center position of the trick mirror. Other than these limitations, the claims are considered as identical which complies with the rule 37 CFR § 1.75 for double patenting. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sukhman et al (US patent 5,661,746) in view of Holmes et al (US patent 4,514,850).

With respect to claim 1, Sukhman et al disclose free-space gas slab laser comprising a gas slab laser (10), a pair of cylindrical electrodes (11, 12), the spacer (99), the gap (40), an output mirror (15) is output coupler only partially reflective emitting laser light beam (16), the Gaussian beam (17), the reflective mirror (14), the diameters (D1 and D2), note cols. 6-13, see figs 1-12. However, Sukhman fails to disclose the w-axicon mirror disposed at the other end of the straight slab and center position. Whereas Holmes et al disclose the w-axicon mirror disposed at the other end of the straight slab and the center position, note cols. 1-5, see figs. 1-6. For the benefit of the w-axicon mirror disposed at the other end of the straight slab and center position, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Sukhman with the w-axicon mirror disposed at the other end of the straight slab and the center position as taught or suggested by Holmes.

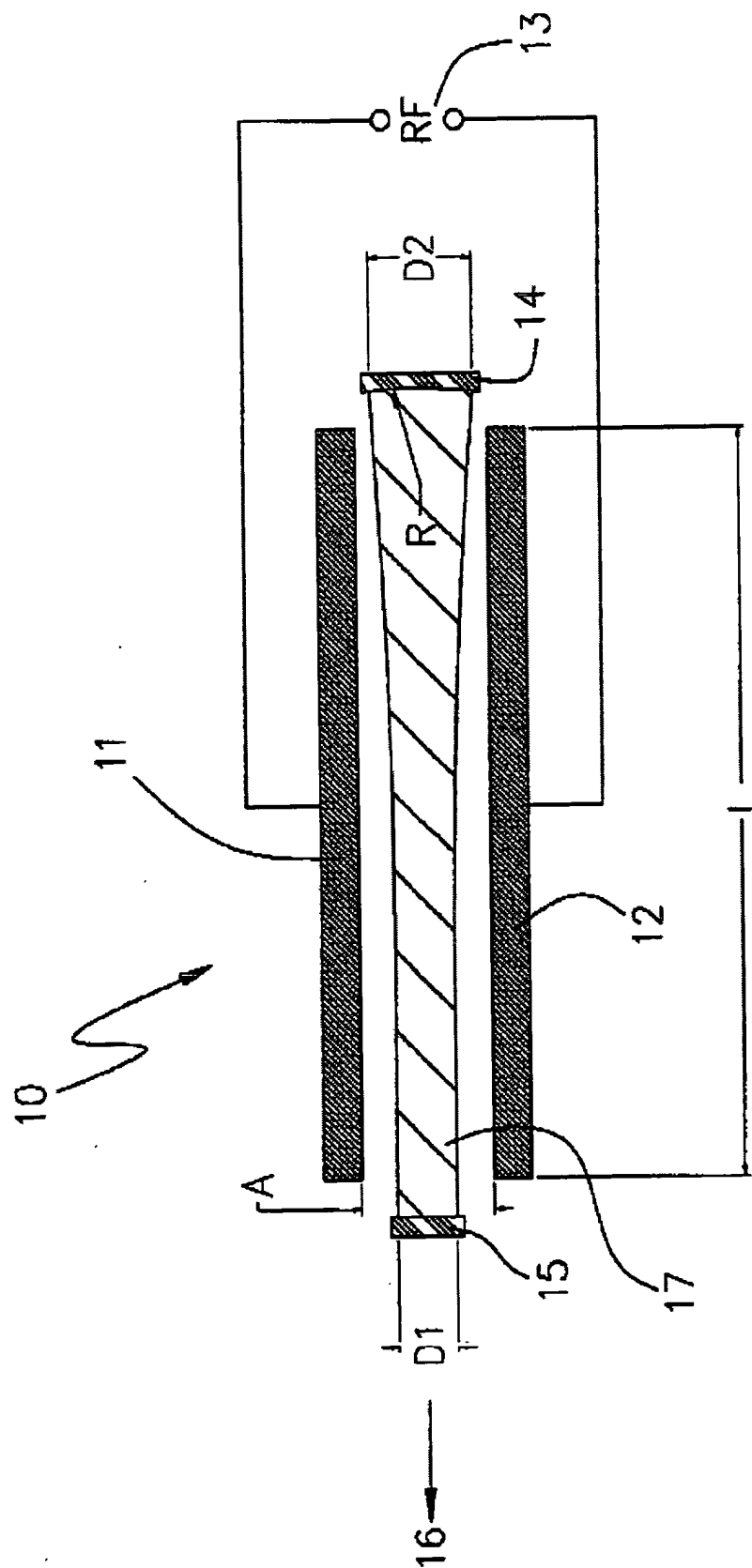
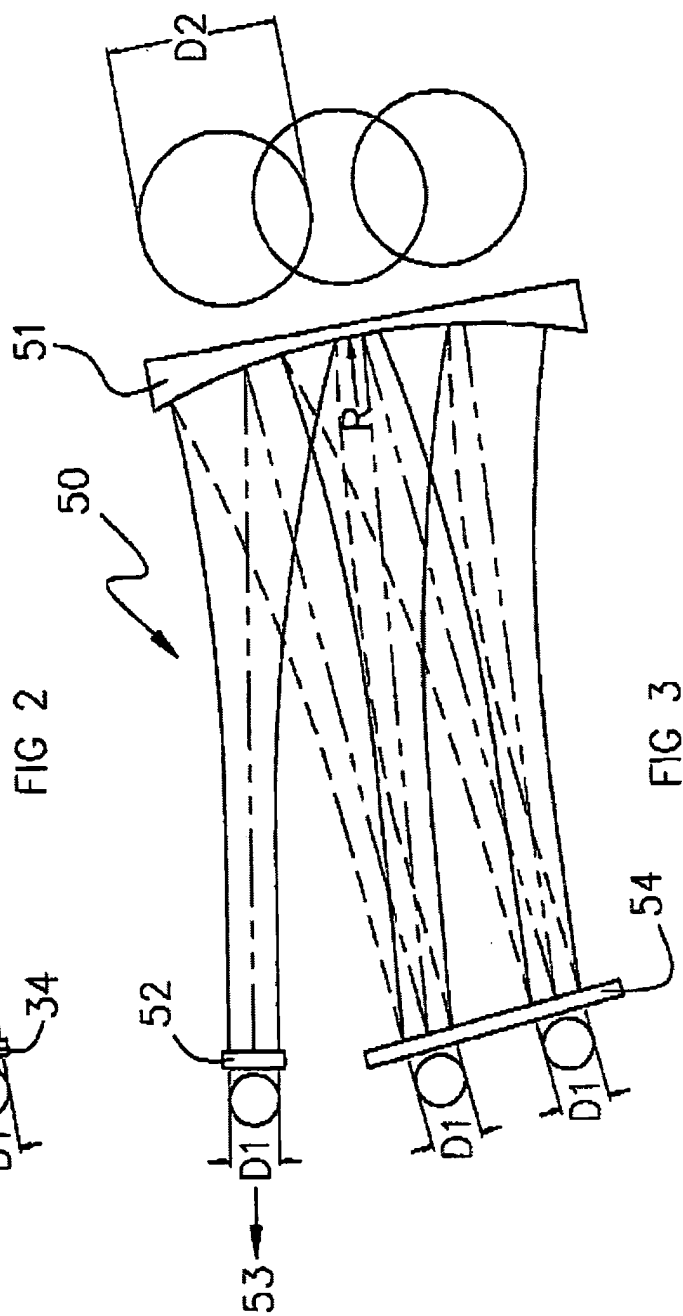
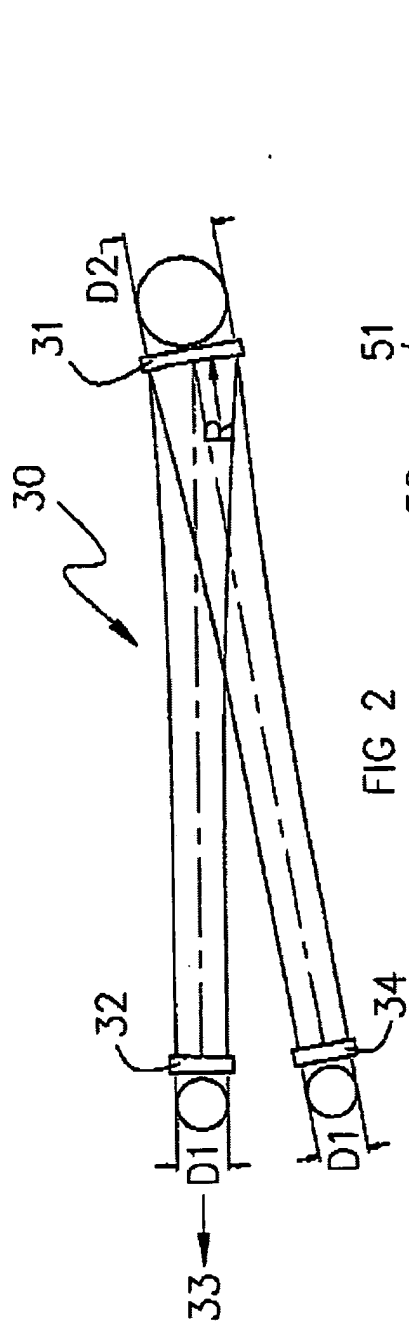


FIG 1



With respect to claim 3, Sukhman discloses the output laser beam from the output mirror has substantially Gaussian intensity distribution when it is focused by a lens, note cols. 5-6, see fig 1.

7. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sukhman et al (US patent 5,661,746) in view of Holmes et al (US patent 4,514,850) further in view of Macken et al (US patent 5,528,613).

With respect to claim 2, Sukhman and Holmes discloses all above except for the magnetized. Whereas Macken et al discloses about magnetized, note cols. 2-3, see fig 2. For the benefit of magnetized, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Sukhman with the magnetized as taught or suggested by Macken et al.

With respect to claim 5, Sukhman discloses the output laser beam from the output mirror has substantially Gaussian intensity distribution when it is focused by a lens, note cols. 5-6, see fig 1.

8. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sukhman et al (US patent 5,661,746) in view of Holmes et al (US patent 4,514,850) further in view of Macken et al (US patent 5,528,613) taken with Macken (US patent 5,128,953).

With respect to claim 6 and 7, Sukhman, Holmes and Macken et al discloses all above except for the output laser beam is applied to cutting machines . Whereas Macken discloses the output laser beam is applied to cutting machines, note cols. 1-2. For the benefit of the output laser

beam is applied to cutting machines, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Sukhman with the output laser beam is applied to cutting machines as taught or suggested by Macken.

9. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sukhman et al (US patent 5,661,746) in view of Holmes et al (US patent 4,514,850) further in view of Macken (US patent 5,128,953).

With respect to claims 4 and 8, Sukhman and Holmes discloses all above except for the output laser beam is applied to cutting machines. Whereas Macken discloses the output laser beam is applied to cutting machines, note cols. 1-2. For the benefit of the laser beam is applied to cutting machines, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Sukhman with the laser beam is applied to cutting machines as taught or suggested by Macken.

Citation Of The Pertinent References

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclose.

The patent to Chenausky (US patent 5,748,663) discloses rectangular discharge gas laser.

The patent to Freiberg (US patent 4,744,090) discloses high extraction efficiency annular resonator.

The patent to George (US patent 4,087,763) discloses method and apparatus for secondary laser pumping by electron beam excitation.

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The patent to Tulip (US patent 4,719,639) discloses carbon dioxide slab laser.

The patent to Logan et al (US patent 4,991,182) discloses optical relay imaging in the common pass annular laser amplifier.


The patent to Holmes (US patent 4,516,244) discloses common-pass decentered annular ring resonator with improved polarization control.

Communication Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-5511 for regular communications and (703) 306-5511 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.


Paul Ip
SPE
Art unit 2828

TMN
August 7, 2002